

### REMARKS/ARGUMENTS

Claims 20, 22-29, 31, and 33-36 are pending in this application. By this amendment, Applicant amends Claims 20 and 31 and cancels Claims 21 and 32.

Claims 21 and 32 were rejected under 35 U.S.C. § 112, second paragraph, for allegedly being indefinite. Claims 20 and 31 have been amended to include the features recited in Claims 21 and 32, respectively, and Claims 21 and 32 have been canceled. Claims 20 and 31 have been further amended to correct the informalities contained in originally filed Claims 21 and 32. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection.

Claims 20, 22-24, 26, 27, 29, 31, and 33-35 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Park et al. (US 2002/0160313). Claims 21 and 32 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Park et al. in view of Frechet et al. (U.S. 5,648,196). Claims 25 and 36 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Park et al., in view of Crary (U.S. 3,661,576). Claim 28 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Park et al. in view of Iguchi et al. (U.S. 6,197,480). Claims 21 and 32 have been canceled. Applicant respectfully traverses the rejections of Claims 20, 22-29, 31, and 33-36.

Claim 20 has been amended to recite:

A method for forming a thick film pattern, comprising the steps of:  
applying to a support a photosensitive paste including an inorganic powder, a photosensitive monomer, a photopolymerization initiator, and a polymer, wherein a ratio of the photosensitive monomer to a total amount of the photosensitive monomer and the polymer satisfies the condition represented by the following Formula:

$$\frac{\text{photosensitive monomer}}{(\text{photosensitive monomer} + \text{polymer})} \geq 0.86,$$

so as to form a photosensitive paste film;  
subjecting the photosensitive paste film to an exposure treatment;  
and  
developing the photosensitive paste film subjected to the exposure treatment so as to form a thick film pattern; wherein

**the contents of the inorganic powder, the photosensitive**

**monomer, and the photopolymerization initiator constituting the photosensitive paste are within the following ranges:**  
**inorganic powder: about 60 to about 90 percent by weight of the photosensitive paste;**  
**photosensitive monomer: about 5 to about 39 percent by weight of the photosensitive paste; and**  
**photopolymerization initiator: about 1 to about 10 percent by weight of the photosensitive paste; and**  
**the inorganic powder includes a metal powder. (emphasis added)**

Applicant's Claim 31 recites features that are similar to the features and method steps recited in Applicant's Claim 20, including the above-emphasized features.

The Examiner alleged that Park et al. teaches all of the features recited in Applicant's Claims 20 and 31, except for the ratio  $\text{photosensitive monomers} / (\text{photosensitive monomers} + \text{polymeric binder}) \geq 0.86$ . The Examiner further alleged that Park et al. teaches in Examples 1 and 2, the ratio  $\text{photosensitive monomer} / (\text{photosensitive monomer} + \text{polymer})$  is about 0.833, that the polymeric binder of Park et al. could be comprised in the photosensitive paste composition in an amount 1-15% and the Examples 1, 2 of Park et al. show an amount of polymeric binder of 3%, and thus, that "[b]y further reducing the amount of polymeric binder within the limits indicated by Park et al., the limitation regarding the ratio required by the instant application is met."

Applicant's Claim 20 has been amended to recite the features of "the contents of the inorganic powder, the photosensitive monomer, and the photopolymerization initiator constituting the photosensitive paste are within the following ranges: inorganic powder: about 60 to about 90 percent by weight of the photosensitive paste; photosensitive monomer: about 5 to about 39 percent by weight of the photosensitive paste; and photopolymerization initiator: about 1 to about 10 percent by weight of the photosensitive paste" and "the inorganic powder includes a metal powder." Applicant's Claim 31 has been similarly amended. Support for these features is found, for example,

in originally filed Claims 21 and 32 and the first full paragraph on page 16 of the originally filed specification.

With respect to Claims 21 and 32, the features of which have been incorporated into Claims 20 and 31, respectively, the Examiner acknowledged that Park et al. fails to teach or suggest the amount of photopolymerization initiator recited in Applicant's Claims 21 and 32. However, the Examiner alleged that Frechet et al. teach that "it is well-known in the art that by increasing the amount of photopolymerization initiator/photoinitiator, the sensitivity of the photopolymerizable composition increases." Thus, the Examiner concluded, "it would have been obvious to one of ordinary skill in the art at the time of the invention to increase the sensitivity of the photopolymerizable paste." Applicant respectfully disagrees.

First, neither Park et al. nor Frechet et al. teaches or suggests any inorganic powder that includes a metal powder.

In contrast, as acknowledged by the Examiner, at best, Park et al. teaches an inorganic fluorescent powder, which clearly does not include any metal powder. Park et al. fails to teach or suggest anything at all about a photosensitive paste which includes any metal powder. Furthermore, it clearly would not have been obvious to modify the photosensitive paste of Park et al. to include a metal powder instead of the fluorescent powder, because the entire purpose of the photosensitive paste of Park et al. is to form a fluorescent film in a plasma display panel, which would be impossible if the fluorescent powder of Park et al. were replaced with a metal powder. Thus, Park et al. certainly fails to teach or suggest the feature of "the inorganic powder includes a metal powder" as recited in Applicant's Claim 20, and similarly in Applicant's Claim 31.

Frechet et al. was relied upon merely to teach the effects of increasing the amount of photoinitiator in a photoresist, and fails to teach or suggest anything at all about a photosensitive paste which includes a metal powder. Thus, Frechet et al. certainly fails to teach or suggest the feature of "the inorganic powder includes a metal powder" as recited in Applicant's Claim 20, and similarly in Applicant's Claim 31.

Second, contrary to the Examiner's allegations, there would have been no motivation to increase the amount of photopolymerization initiator of Park et al. so as to be in the range of about 1 to about 10 percent by weight of the photosensitive paste, as allegedly taught by Frechet et al. The Examiner has failed to provide any reason whatsoever why it would have been desirable or advantageous to one of ordinary skill in the art to increase the sensitivity of the photosensitive paste of Park et al. Instead, the Examiner's alleged motivation, i.e., to increase the sensitivity of the photopolymerizable paste of Park et al., is nothing more than a conclusory statement. Thus, the Examiner has clearly failed to establish a *prima facie* case of obviousness in the rejection of Claims 21 and 32 (the features of which have been incorporated into Claims 20 and 31, respectively) over Park et al. in view of Frechet et al.

Accordingly, Applicant respectfully submits that Park et al. and Frechet et al., applied alone or in combination, fail to teach or suggest the unique combination of method steps and/or features recited in Applicant's Claims 20 and 31.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of Claims 20 and 31 under 35 U.S.C. § 103(a) as being unpatentable over Park et al.

The Examiner relied upon Crary and Iguchi et al. to allegedly cure deficiencies of Park et al. However, neither Crary nor Iguchi et al. teaches or suggests the features of "the contents of the inorganic powder, the photosensitive monomer, and the photopolymerization initiator constituting the photosensitive paste are within the following ranges: inorganic powder: about 60 to about 90 percent by weight of the photosensitive paste; photosensitive monomer: about 5 to about 39 percent by weight of the photosensitive paste; and photopolymerization initiator: about 1 to about 10 percent by weight of the photosensitive paste" and "the inorganic powder includes a metal powder" as recited in Applicant's Claim 20, and similarly in Applicant's Claim 31. Thus, Crary and Iguchi et al. fail to cure the deficiencies of Park et al. described above.

Accordingly, Applicant respectfully submits that Park et al., Frechet et al., Crary,

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and Iguchi et al., applied alone or in combination, fail to teach or suggest the unique combination of features and/or method steps recited in Applicant's Claim 20, and similarly in Applicant's Claim 31.

In view of the foregoing amendments and remarks, Applicant respectfully submits that Claims 20 and 31 are allowable. Claims 22-29 and 33-36 depend upon Claims 20 and 31, and are therefore allowable for at least the reasons that Claims 20 and 31 are allowable.

In view of the foregoing amendments and remarks, Applicant respectfully submits that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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